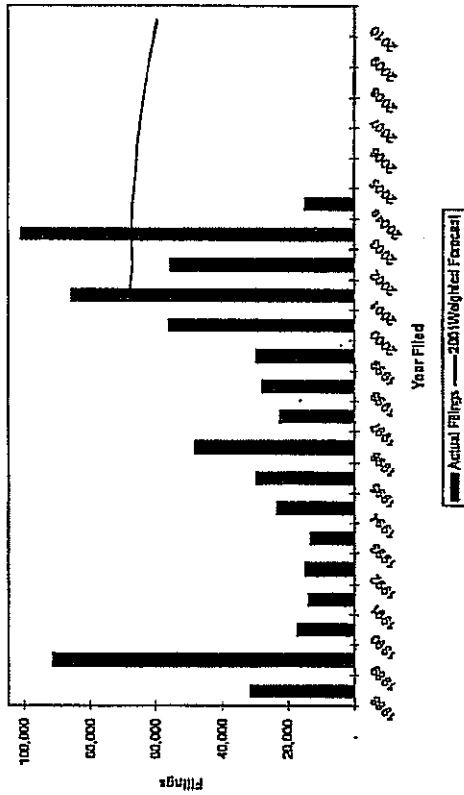
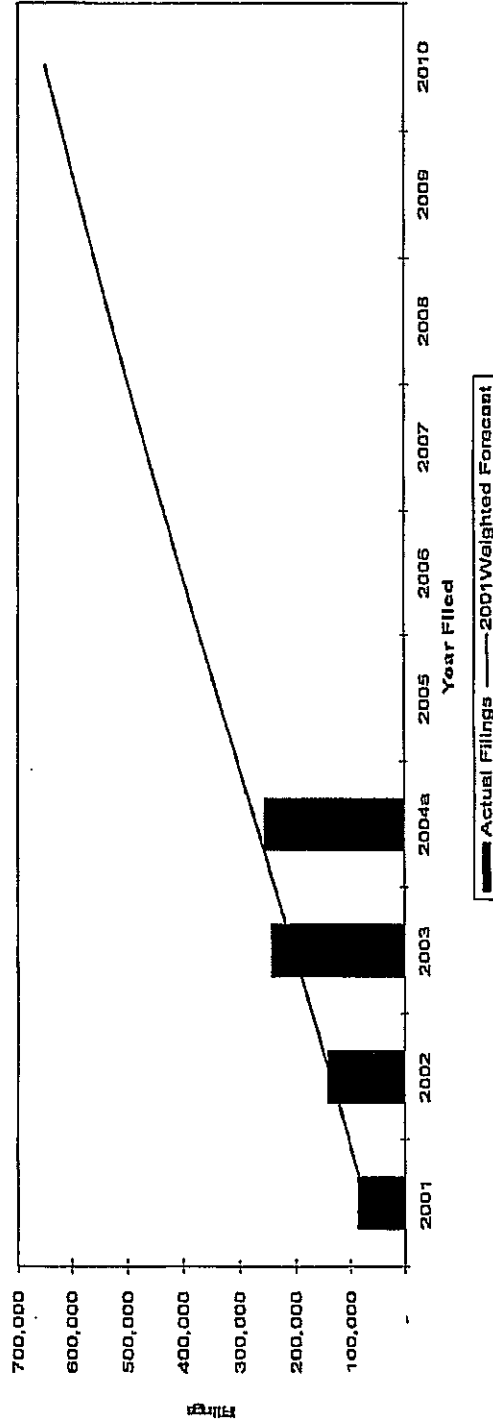


Year by Year Comparison of Actual Filings to 2001 Forecast



Cumulative Comparison of Actual Filings to 2001 Forecast



a - 6 month annualized

## Conflicting Signals

- Overall, cumulative 4 year forecasting error is small
- The annual forecasting error is significant
- Is the current, low level of filings a temporary or more permanent state of affairs?

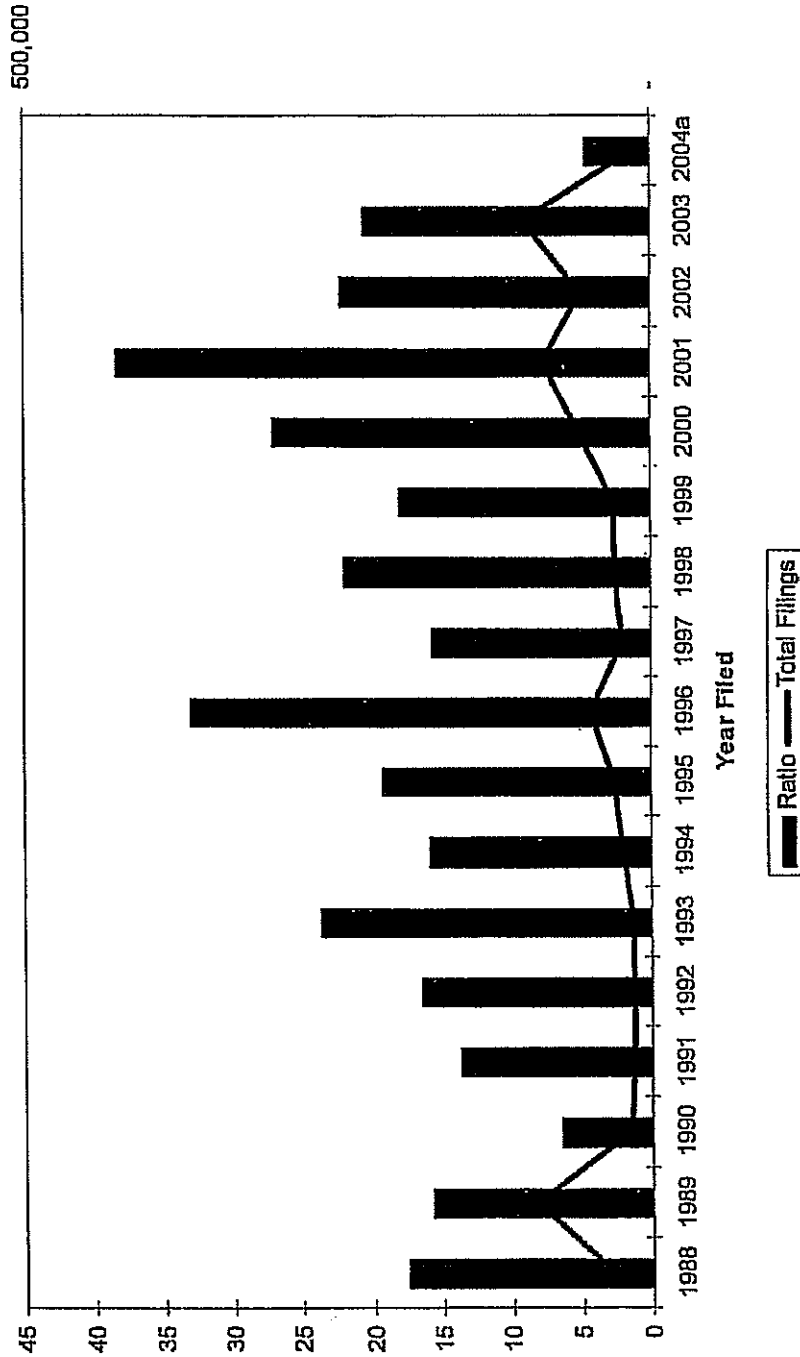
# Claim Forecast Methodology

## Dose-Response Model

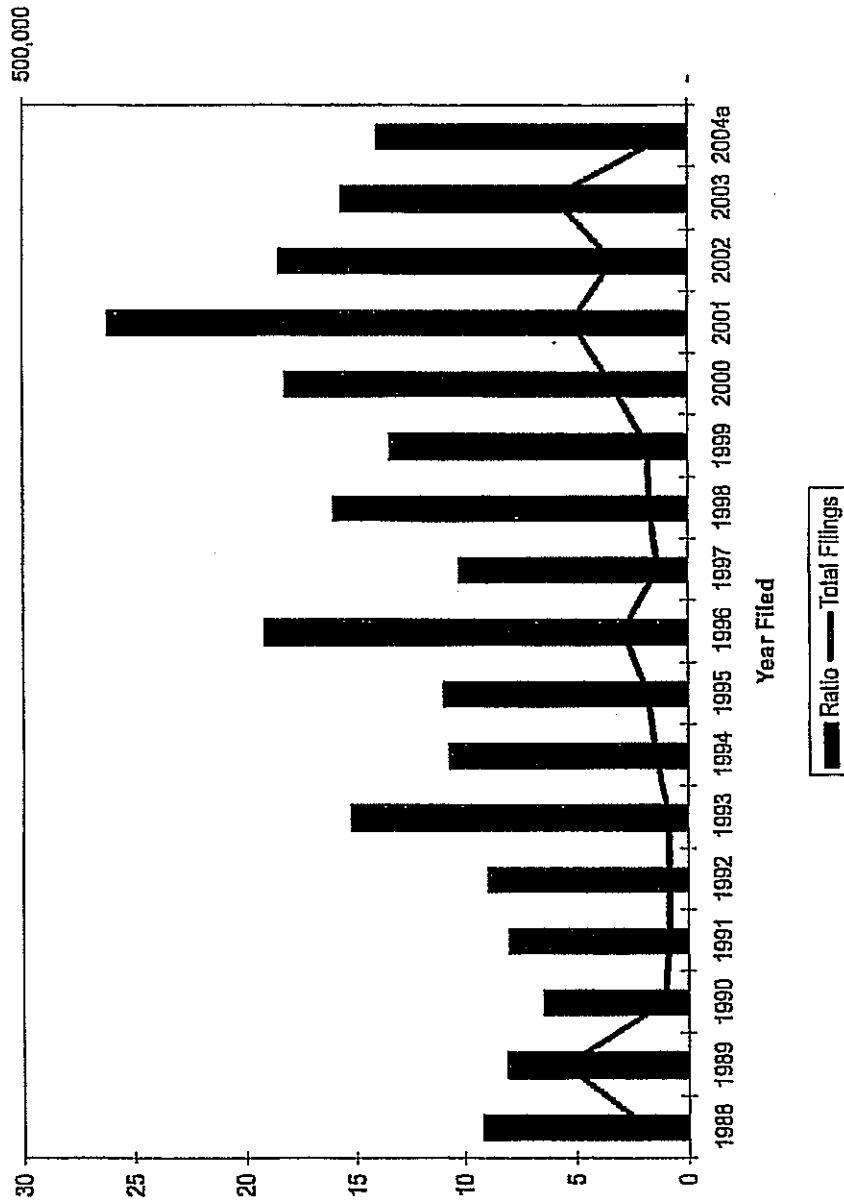
- Pioneered by Peto & Nicholson
- Based on relationship between asbestos exposure and incidence of mesothelioma and lung cancer
- No accepted biological models for asbestos-related non-malignancies
- Non-malignancy claim forecast based on historic relationship to mesothelioma and/or lung cancer filings



**Number of Non-Malignancy Claims Filed for Every 1 Meso Claim Filed**  
 (Min = 5, Avg = 19, Max = 38)



**Number of Non-Malignancy Claims Filed for Every 1 Lung Cancer Claim Filed**  
 (Min = 6, Avg = 13, Max = 26)



a - 6 month annualized

## Alternative Model

- Based on the historic relationships between claims, asbestos usage and the prevailing safety standards over time.
- Claim filings decline over time in response to lower intensity and duration of exposure to asbestos products.

# ASBESTOS STATISTICS

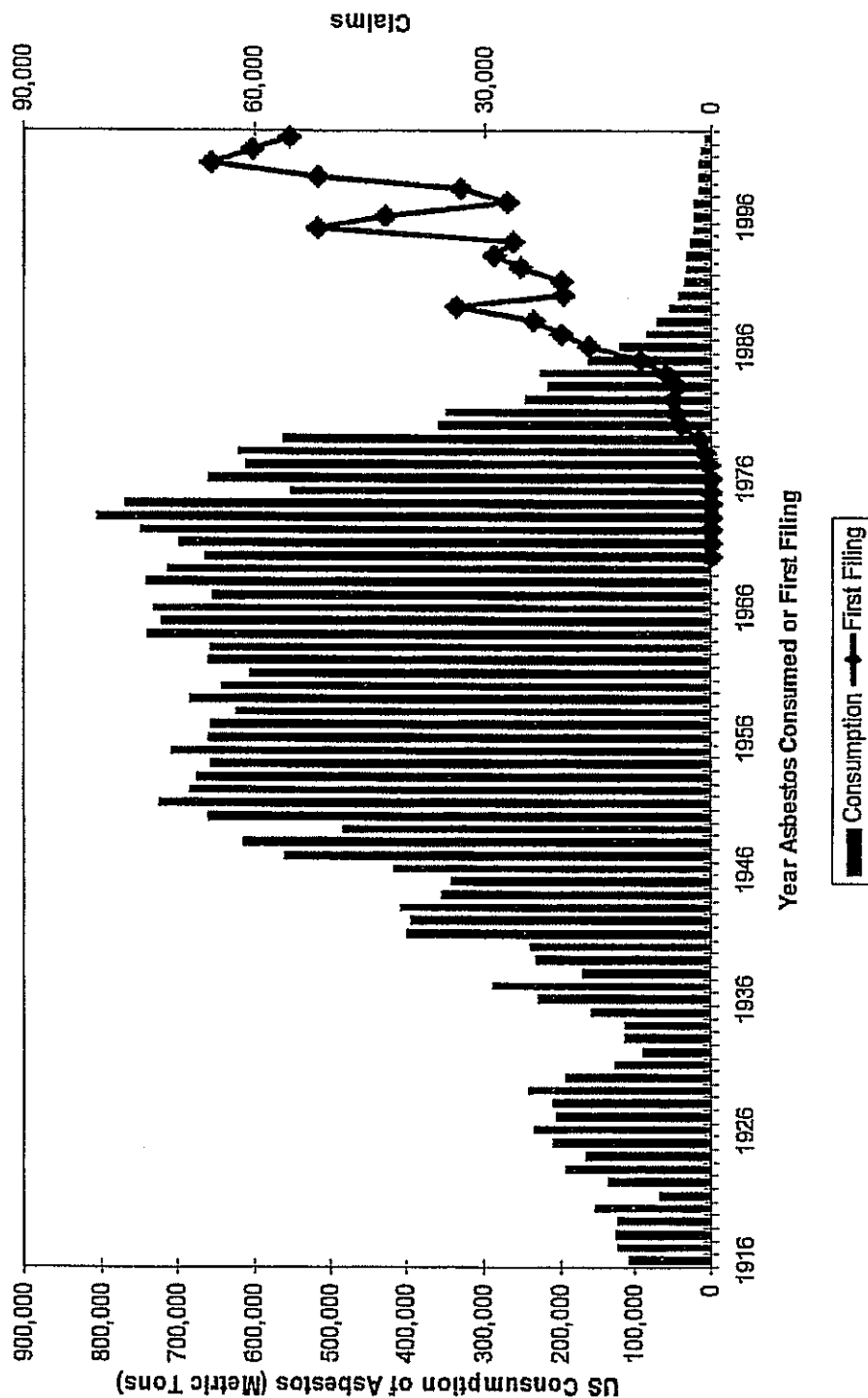
1961	47,900.00	550,000.00	604,000.00
1962	48,300.00	613,000.00	659,000.00
1963	60,200.00	606,000.00	657,000.00
1964	91,700.00	670,000.00	738,000.00
1965	107,000.00	653,000.00	721,000.00
1966	114,000.00	659,000.00	731,000.00
1967	112,000.00	585,000.00	654,000.00
1968	109,000.00	669,000.00	741,000.00
1969	114,000.00	630,000.00	712,000.00
1970	114,000.00	589,000.00	665,000.00
1971	119,000.00	618,000.00	699,000.00
1972	120,000.00	668,000.00	747,000.00
1973	136,000.00	718,000.00	803,000.00
1974	103,000.00	695,000.00	768,000.00
1975	99,000.00	490,000.00	552,000.00
1976	105,000.00	596,000.00	659,000.00
1977	92,000.00	551,000.00	610,000.00
1978	93,000.00	570,000.00	619,000.00
1979	93,000.00	513,000.00	564,000.00
1980	80,000.00	327,000.00	356,000.00
1981	76,000.00	338,000.00	349,000.00
1982	64,000.00	242,000.00	247,000.00
1983	70,000.00	196,000.00	217,000.00



## Asbestos Statistics (confid)

1984	57,000.00	210,000.00	226,000.00
1985	57,000.00	142,000.00	162,000.00
1986	51,000.00	108,000.00	120,000.00
1987	51,000.00	94,000.00	84,000.00
1988	18,000.00	85,000.00	71,000.00
1989	17,000.00	55,000.00	55,000.00
1990		41,000.00	41,000.00
1991	20,000.00	35,000.00	35,000.00
1992	16,000.00	32,000.00	33,000.00
1993	14,000.00	31,000.00	32,000.00
1994	10,000.00	26,000.00	27,000.00
1995	9,000.00	22,000.00	22,000.00
1996	10,000.00	22,000.00	22,000.00
1997	7,000.00	21,000.00	21,000.00
1998	6,000.00	16,000.00	16,000.00
1999	7,000.00	16,000.00	16,000.00
2000	5,000.00	15,000.00	15,000.00
2001	5,000.00	13,000.00	13,000.00
2002	3,000.00	7,000.00	7,000.00
2003	0	5,000.00	5,000.00

Comparison of Asbestos Consumption and First Filing (Earlier of Litigation or Filing)



US Geological Survey &  
Manville Trust

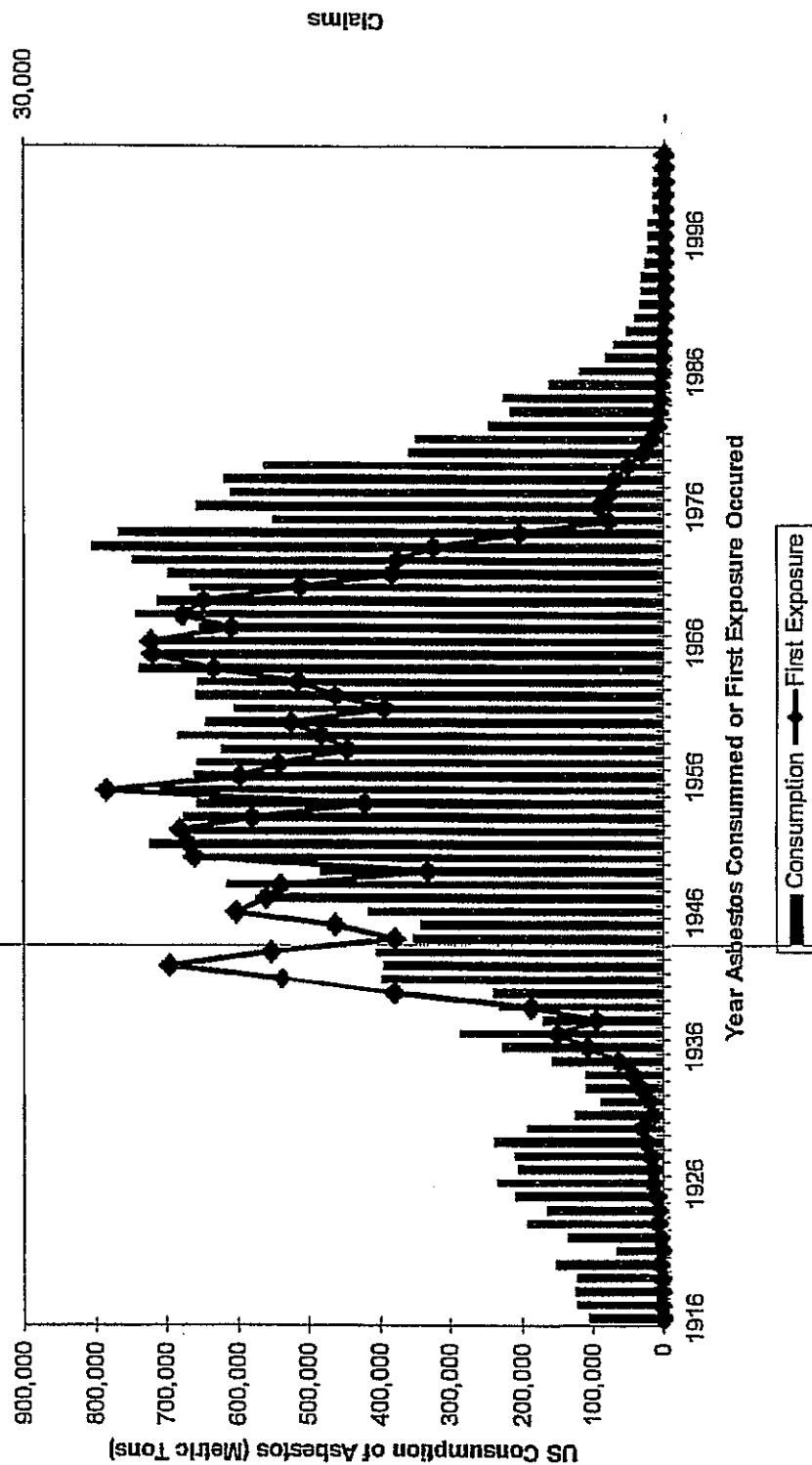
## Where are the underlying factors driving non-malignancy claims?

- No direct link to economic and legal factors driving the filing of non-malignancy claims
  - Such factors enter into the modeling process indirectly in calibration period and methods.
- Their absence makes interpretation of the variance to forecast especially difficult

## Evidence on Exposed Population

- Very little has been done since Nicholson's groundbreaking study in 1982
  - 27.5 million were exposed from 1940 – 1979 with some 21 million still alive at 1/1/1980
- Nicholson's estimate was limited both in time and to 'traditional' exposures

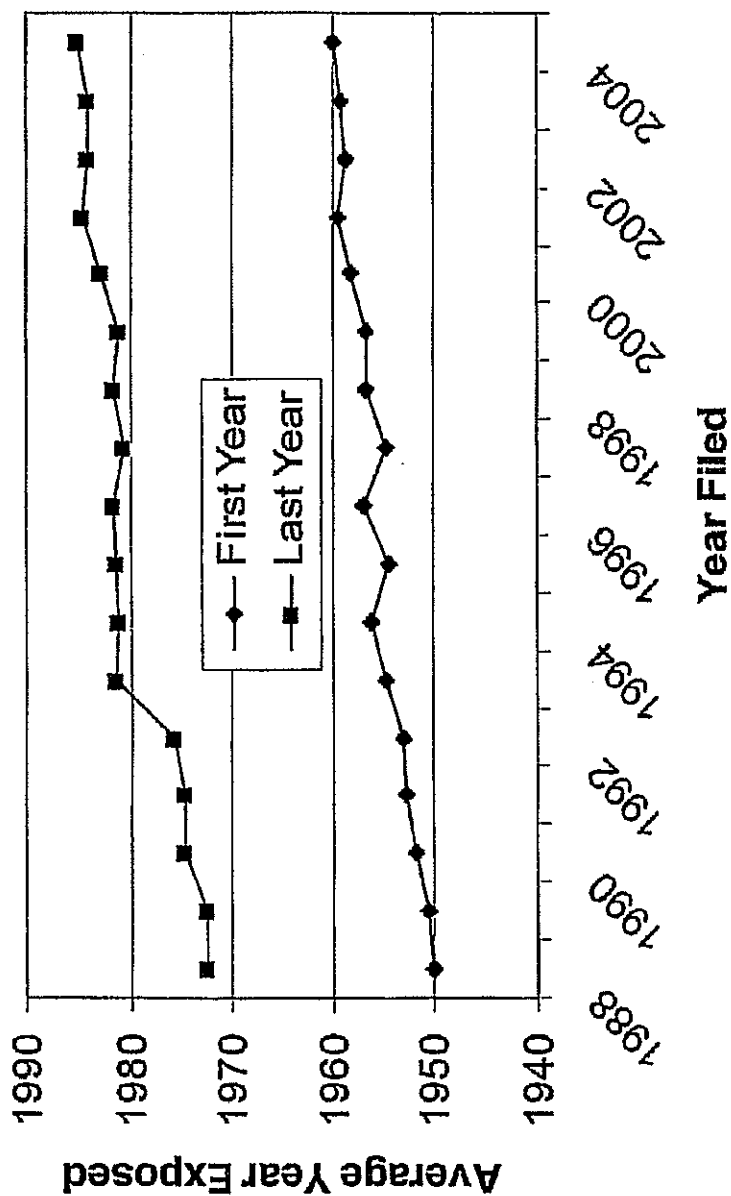
Claimants' First Exposure Lags Asbestos Consumption



US Geological Survey &  
Manville Trust



## For Claims Filed in 2004, the Average Year of First Exposure Is Still Only 1960



## Why are so few non-malignant claims being filed?

- Cloud of federal legislation and tort reform
- Exhausted claim filings in 2003
- Less immediate money is available today
- Scheduled value and medical and exposure criteria are unsettled for many defendants
- More stringent criteria and lower values
- Absence of competition to retain clients

## A business model approach to forecasting non-malignancies

- Factors that influence claim filing behavior
  - Economic expectations
    - Attorney fees net of out-of-pocket costs over time
  - Adjusted for the risks expectations not met
    - Tort reform & federal legislation
    - Bankruptcy
    - Future changes in qualifying criteria

## Is a Business Model Viable?

- Estimating recoveries
- Identifying and quantifying risk
  - Subjective judgments
- Establish and test the nexus between risks and filing behavior
  - How does the changing amount and probability of payment impact filing behavior?



## History Offers a Guide

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• 1990 – 1994<br/>Unfavorable<br/>Environment for<br/>Non-Malignancies<ul style="list-style-type: none"><li>• Only exigent health<br/>claims paid.</li><li>• Avg. 17,000/yr</li><li>• Max. 23,000/yr</li><li>• Min. 14,000/yr</li></ul></li></ul> | <ul style="list-style-type: none"><li>• 2000 – 2003<br/>Favorable<br/>Environment for<br/>Non-Malignancies<ul style="list-style-type: none"><li>• X-ray audit<br/>discontinued.</li><li>• Avg. 75,000/yr</li><li>• Max. 101,000/yr</li><li>• Min. 56,000/yr</li></ul></li></ul> |
|---|---|



## Recommendations

- National Asbestos Claims Database
  - At a minimum, injured party's name, address, SS#, law firm and personal representative by defendant and date filed
- 'Blue Chip' Survey for Asbestos Claims
  - Probability of events impacting non-malignancy claims over the near, medium & long term (1, 3 and 5 years)
- Database of Expected Recoveries
- Reduce Inter-(b)reader Variability
  - NIOSH led effort focusing on disagreement over reading x-rays of the least injured individuals

## Claiming the Future A Forecasting Challenge

- Forecast uncertainty will continue for the foreseeable future, but not indefinitely
  - Better managed by quantifying the risks and explicitly incorporating business considerations driving the filing of non-malignancy claims
  - Even without a business model, having a business perspective is crucial in the early recognition of new trends in the filing of claims